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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,073	12/01/2003	Eiji Ohta	09792909-5742	2729

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EXAMINER	
WALSH, DANIEL I	
ART UNIT	PAPER NUMBER
2876	
MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/725,073	OHTA ET AL.	
	Examiner	Art Unit	
	Daniel I. Walsh	2876	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 May 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,6-9 and 17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,6-9 and 17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Receipt is acknowledged of the Amendment received on 5-14-07.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 1, 7-9, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ota et al. (JP 2002-163624) in view of Kodai (US 5,026,452).

Ota et al teaches an IC card with an IC chip 5 mounted on an insulating substrate 1 having an antenna coil 3, and a chip reinforcing plate (9, 9') provided on at least an IC mounted surface of the insulating substrate 1, a core layer 13 comprising a plurality of sheet materials 15,16 having an IC module disposed there between. Ota et al. teaches sealing resin (7,7') which

is interpreted as encapsulating the IC chip and is within the through hole area. The plurality of sheet materials comprises a pair of inner core sheets 15,16 that are adjacent to the IC module. Though Ota et al. is silent to through holes for the IC module, the examiner notes it is well known and conventional to have such a hole/recess in order to fit the IC module into the core, and therefore such modification is well known and conventional in the art, as an obvious expedient. For clarification purposes, the Examiner notes that FIG. 1 shows an arrangement where an IC ship and reinforcing plates are disposed in what appears to be a holes/cavity (interpreted as a through hole by the Examiner). In FIG. 1, the height of the hole on both sides appears to be substantially equal to that of the projections, thus satisfying the relationships set forth in the claims. The Examiner notes that as per FIG. 5 of the Applicants own Application, the projections are illustrate as being the distance between the insulating substrate and the reinforcing plate. Accordingly, the sum of the through holes (measured on both sides of the substrate), being substantially equal to the projection height, as the reinforcing plate is at the ends of the through holes, the limitations are met, as B1+C1 is seen as substantially equal to A, which places it in the claimed range. It is interpreted by the Examiner that upon formation of the card by pressure, that a through hole can be created. Additionally, the Examiner notes that the term "projection" is sufficiently broad. The claims have not recited what the projection is, and the Examiner notes that any reasonable interpretation can be applied by additional art, to meet the broad recitation of a projection. Additionally, the Examiner notes that it is understood that in order to fit the chip/module in the opening/through hole, that the dimensions must be slightly larger than the width/length of the chip reinforcing place and sealant, otherwise they will not fit in the opening/through hole. As per the Applicants FIG. 1, which shows the reinforcing place

formed on the chip through the sealing material, the sealing material (7,7') of Ota et al. is interpreted to meet such shown limitations.

Ota et al. is silent to the sheet materials have a hole formed before the chip is placed in, and is silent to the term "through hole", though the Examiner has discussed above how the card of Ota et al. can be interpreted to have a through hole, such as the opening where the electronics and plate are received within the card itself.

Nonetheless, Kodai et al. teaches such limitations (FIG. 7), where a through hole (7) is formed between layers of an IC card. Additionally, such is done prior to chip insertion.

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the teachings of Ota et al. with those of Kodai et al.

One would have been motivated to do this to accommodate the chip dimension to ensure smoothness of the IC card, as opposed to pressing/pressure as taught by Ota et al., that can lead to smoothness being compromised and possible deformation of the card or damaging the device.

Re claim 7, display layer 20 is a rewritable display layer.

Re claims 8-9, Ota et al. teaches the limitations (paragraph [0037]+)

Re claim 17, the limitations have been discussed above.

3. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ota et al./Kodai et al., as discussed above, in view of Saito et al. (JP 11078324).

The teachings of Ota et al./Kodai et al. have been discussed above.

Ota et al./Kodai et al. is silent to an outer core sheet stacked on at least one of the pair of inner core sheets.

Saito et al. teaches outer core sheets (SOLUTION).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the teachings of Ota et al./Kodai et al. with those of Saito et al.

One would have been motivated to do this to increase impact resistance strength and heat resistance/protection.

Response to Arguments

4. Applicant's arguments with respect to claims are moot in view of the rejection as per above. The Examiner notes that the sealing resin (7,7') is interpreted to meet the new claim limitations regarding a sealing material encapsulating the chip, and formed on the IC chip through the sealing material. The Examiner notes that in order to fit in the through hole, that the dimensions of the through hole would obviously be larger in the width/length in order for the complete module to be able to fit. It the whole was the same size or smaller, the module would not fit within it. The Examiner notes that the reinforcing plate is interpreted as formed on the chip through the material, as per the Applicants own FIG. 1.

Additional Remarks

5. The Examiner notes that Usami et al., as cited previously, teaches that the size of an IC chip is in the range of 30 micrometers. Additionally, multilayered cards (sheets) are well known in the art (US 5,346,576 6,352,767, 5,888,624, 5,304,513, and 5,026,452) and Ramachandran teaches a hole in the layers before card insertion (cited by the Applicant JP 2003346112) as does Kobayashi et al.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel I. Walsh whose telephone number is (571) 272-2409. The examiner can normally be reached on M-F 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on (571) 272-2398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Daniel I Walsh
Examiner
Art Unit 2876

DANIEL WALSH
PRIMARY EXAMINER